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PAEPALANTHUS SUBG. *XERACTIS* (ERIOCAULACEAE): NOTES AND NOMENCLATURAL CHANGES

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ABSTRACT

Critical new records are cited for *Paepalanthus clausenii* Hensold and *P. dianthoides* Koern. *Paepalanthus chlorocephalus* f. *parviflorus* Hensold is elevated to species status as ***P. parviflorus*** (Hensold) Hensold. A *nomen novum*, ***Paepalanthus stuetzelii*** Hensold, is provided for the later homonym *Paepalanthus lanuginosus* Hensold. A revised description and sectional placement is provided for *Paepalanthus xiphophyllus* Ruhland, with discussion.

KEY WORDS: Eriocaulaceae, *Paepalanthus*, Brazil, systematics

Paepalanthus subg. *Xeractis* is a group of 28 species endemic to the Serra do Espinhaço of Minas Gerais, Brazil. Additional data have accumulated since the publication of a monograph of subg. *Xeractis* (Hensold 1988), and a few notes and corrections in the taxonomy are in order. Publication of these notes is made timely by the upcoming treatment of the subgenus for the Flora of the Serra do Cipó, Brazil (Boletim de Botânica, Universidade de São Paulo, vol. 9 f.f.).

Paepalanthus clausenii Hensold

Additional specimen: BRASIL. Minas Gerais: Itabirito, Pico do Itabirito, entre afloramentos de quartzito, 16 Oct. 1993, *leg. W. A. Teixeira, BHCB hb. no. 24258* (BHCB,F). [Duplicates possibly distributed in error as *BHCB 26523*, *P. speciosus*].

This is a welcome verification that this species is not extinct. It has been known until now only from three Claussen collections made around 1840, probably from the same locality.

Paepalanthus dianthoides Koern.

Additional specimen: BRASIL. Minas Gerais: Santana do Riacho, Serra do Cipó, Rodovia Belo Horizonte-Conceição do Mato Dentro: 12 km NE de Cardeal Mota, Alto Congonhas, 3 km E del camino, *M.M. Arbo et al. 4742* (CTES).

Until now, this species was reported with certainty only from the Serras do Garimpo and Caraça, in the southern reaches of the Serra do Espinhaço near Santa Bárbara. This is the first collection from the extremely well-collected Serra do Cipó, where it was found growing at the edge of gallery forest. The gallery forests within the Serra do Cipó may provide similar habitat to the Serras to the south, where the vegetation is generally denser and shrubbier.

The Serra do Cipó specimen differs from the Santa Bárbara material in having leaves that are softly pilose above and not evidently ciliate, the involucral bracts weakly hygroscopic and more densely hairy on the inner surface, and the floral bracts and sepals very pale. The sepals are a "dirty cream" in comparison to most other species with cream-colored flowers, but the shade is so pale that it would surely key to *Paepalanthus superbus* Ruhland in the monograph, a species known only from farther north in the Serra do Cipó. *Paepalanthus dianthoides*, including the Serra do Cipó plant, can also be distinguished from *P. superbus* by the sharp-cuspidate leaves, the white anthers, and the shallow short-bracteate involucres, as well as by several technical characters including leaf anatomy.

Paepalanthus parviflorus (Hensold) Hensold, *comb. & stat. nov.* BASIONYM: *Paepalanthus chlorocephalus* A. Silveira f. *parviflorus* Hensold, Syst. Bot. Monogr. 23:117-118. 1988.

My original treatment of this taxon as a form of *Paepalanthus chlorocephalus* depended on the assumption that it represented no more than a simple mutational variant of that species, co-existing with it in polymorphic equilibrium. But this seems to me now to be an extravagant assumption, without good evidence. If I had not been influenced by the sight of an intermingled population of these in the field (at km 125 on the Rodovia Belo Horizonte - Conceião do Mato Dentro), where they were blooming simultaneously and virtually indistinguishable at first sight, I would probably have treated them as separate species from the beginning.

The two species are distinguished by several characters and general tendencies, discussed in detail in the monograph. From a biosystematic viewpoint the low seed production observed in *Paepalanthus parviflorus* relative to that of *P. chlorocephalus* is of some interest, as is the fact that hybrids with *P. nigrescens* A. Silveira are known only with *P. parviflorus*, and not with the much more common *P. chlorocephalus* (Hensold 1988). In addition, *P. parviflorus* occurs alone in the vicinity of Morro do Breu, north of the known range of *P. chlorocephalus*. Cytological studies of the two taxa would be desirable.

Paepalanthus stuetzelii Hensold, *nom. nov. Paepalanthus lanuginosus* Hensold, Syst. Bot. Monogr. 23:140. 1988., ***non*** *Paepalanthus lanuginosus* (Bong.)

Koern. *in* Martius, *Fl. Bras.* 3(1):428. 1863., =*Leiothrix curvifolia* Ruhland var. *lanuginosa* (Bong.) Ruhland.

Dr. Thomas Stützel kindly pointed out to me that I had overlooked the prior application of the name *Paepalanthus lanuginosus*, and published a later homonym. The new name hereby honors his substantial contributions to the study of Eriocaulaceae.

Paepalanthus xiphophyllus Ruhland -- TYPE: BRASIL. Minas Gerais: Serra da Gandarella, *leg. Sena, hb. Schwacke 14578*, acc. 25.IV.1902 (HOLOTYPE: B!).

I had not seen the type of this species earlier, because of my assumption that it had been destroyed. In fact, the eriocaul types at B are largely extant. Examination of the original label confirms the type locality as the Serra da Gandarella, a ferriferous range ca. 17 km west of the Serra do Caraça, erroneously cited in the protologue as the "Serra da Gandavelha."

Examination of the type material necessitates the following changes in the taxonomic treatment.

Revised placement: Transferred from ser. *Albidi* to ser. *Fuscati*. (But see discussion below.)

Revised description: Stems elongate, 18 cm in the type, sericeo-tomentose. Leaves ca. 6 cm long, 8-12 mm wide, lanceolate, acute, chartaceous, densely striate-sericeous to arachno-tomentose on both surfaces, but pubescence not completely obscuring the leaf surface. Inflorescences 2 in the type. Peduncle sheaths about equalling the leaves and pubescent like them, acute, apparently open nearly to the base. Peduncles about 5 cm long, robust, densely sericeous. Involucres shallow, the bracts in only about 3 series; involucral bracts dark gray-brown, deltoid, acute to acuminate, the lower only slightly smaller than the upper and similar in shape, those of the upper series about 6 mm long, 3-4 mm wide, surpassing capitulum by ca. 3 mm; pubescence of long silky appressed hairs on abaxial surface and of coarse opaque hairs limited to the marginal area and apex on the adaxial surface, otherwise shiny and glabrous within. Capitula 10-12 mm diam. Trichomes of bract and sepal apices with the apical cell linear-clavate (like a baseball bat), ca. 160-180 µ long, 40 µ wide, the inner walls ornamented. Staminate flowers: Sepals dark brown (subhyaline and blackened spadiceous), elliptic, broadly acute, ca. 2.8 mm long, fused in the basal 0.6 mm; tufted with trichomes at apex ca. 0.5-0.6 mm long, and long-ciliate along margins of upper half, otherwise glabrous. Corolla cream (or brownish-hyaline), lacking localized granular pigmentation, ca. 3 mm, short-stipitate, the stipe ca. 0.5 mm, the lobes long-acuminate, ca. 0.6 mm; glabrous within, the sinuses obscurely lobed to entire and very sparsely ciliate. Anthers brown, exsert, ca. 0.4 mm. Appendages of the style (*i.e.*, pistillodes) truncate-infundibular, brown, short-papillate, ca. 0.6 mm long. Pistillate flowers not seen.

This species lacks the trichomes on the inner surface of the corolla of the staminate flowers which characterize all other known species of subg. *Xeractis*, and although the involucral bracts surpass the capitulum, they are pubescent only near the margins on the adaxial surface and are not hygroscopic. The deeply split peduncle sheath is also an unusual characteristic.

In terms of phenetic relationship, *Paepalanthus xiphophyllus* is more similar to *P. superbus* of subg. *Xeractis* ser. *Fuscati* than to any other species, and for this reason I provisionally retain it in the subgenus. It shares with this species similar habit, leaf pubescence and anatomy, sepal morphology, linear-clavate (baseball-bat-shaped) floral trichome apical cells, and staminate corollas with acuminate lobe apices, and without localized granular pigmentation. However, *P. superbus* and its two other closest relatives, *P. ater* Silveira and *P. revolutus* Hensold, are endemic to the northern part of the Serra do Cipó, relatively distant from the cited locality of *P. xiphophyllus.*

Paepalanthus xiphophyllus also may have affinities to a group of species recently excluded from subg. *Xeractis* (Hensold 1988), including *P. acuminatus* Ruhland, *P. harmsii* Ruhland, and *P. leiseringii* Ruhland of the Serra de Ibitipoca, as well as *P. paulinus* Ruhland of the Serra do Espinhaço and *P. xanthopus* A. Silveira of the Serra do Cabral. All these taxa have rather large radiating, but non-hygroscopic, involucral bracts, and in several, the corollas of the staminate flowers are ciliate at the upper margin (although not pilose within). However, in most of these taxa (not verified for *P. xanthopus*) the stylar appendages have long hair-like papillae. The long-stemmed habit, brown (although relatively small) anthers, and short-papillate stylar appendages of *P. xiphophyllus* suggest it occupies an intermediate position between this group of taxa and subg. *Xeractis*.

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LITERATURE CITED

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